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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,307	03/26/2004	Alexander James Ciniglio	1365.083US1	8278

21186 7590 01/24/2006

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH  
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MINNEAPOLIS, MN 55402

EXAMINER
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EDMONDSON, LYNNE RENEE

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/811,307

Applicant(s)

CINIGLIO, ALEXANDER JAMES

Examiner

Lynne Edmondson

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,11,13-18,23 and 25-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4,6,11 and 13-16 is/are allowed.
- 6) ☒ Claim(s) 17,18,23 and 25-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 17, 18, 23 and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al. (US 20020000359 A1) in view of Graves et al. (US 2002/0079353 A1).

Asia teaches a soldering apparatus for soldering and visually assessing solder joints wherein an inspection device (camera, paragraphs 174-176) is used in combination a controller (computer program, paragraphs 200, 262 and 366), adjacent conveyors (400,402) and a carriage (figure 1 and paragraphs 16 and 34). The board is then moved as necessary. The conveyors operate in forward and reverse and multiple stations and heating means are part of the apparatus (paragraphs 93-96 and 127). However, a container for molten solder is not disclosed.

Graves teaches wave or dip soldering, which would include a container for molten solder, wherein the board is pre-heated and inspected (paragraph 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention that wave or dip soldering is conventional and an obvious variation of reflow soldering. In both types of soldering, there is a need to quickly assess and correct

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faulty joints and thereby simultaneously produce various kinds of circuit boards in a reliable, time and cost-effective manner.

3. Claims 17, 18, 23 and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asai et al. (US 20020000359 A1) in view of Sabotke et al. (USPN 5737834).

Sabotke teaches a soldering apparatus for soldering and visually assessing solder joints wherein an inspection device (camera, paragraphs 174-176) is used in combination a controller (computer program, paragraphs 200, 262 and 366), adjacent conveyors (400,402) and a carriage (figure 1 and paragraphs 16 and 34). The board is then moved as necessary. The conveyors operate in forward and reverse and multiple stations and heating means are part of the apparatus (paragraphs 93-96 and 127). However, a container for molten solder is not disclosed.

Sabotke teaches a process which employs both reflow and wave soldering, which would include a container for molten solder, wherein the conveyors move in multiple directions including reverse (figures 1 and 2 and col 2 line 28 – col 3 line 20).

It would have been obvious to one of ordinary skill in the art at the time of the invention that wave soldering is conventional and an obvious variation of reflow soldering. In both types of soldering, there is a need to quickly assess and correct faulty joints and thereby simultaneously produce various kinds of circuit boards in a reliable, time and cost-effective manner.

***Allowable Subject Matter***

4. Claims 1-4, 6, 11 and 13-16 are allowed.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Van Tilburg (USPN 5029696) and Gueritey (USPN 1493035).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (571) 272-1172. The examiner can normally be reached on Monday through Thursday from 6:30 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Lynne Edmondson  
Primary Examiner  
Art Unit 1725

*LE*  
*1/19/00*

LRE